

ABSTRACT OF THE DISCLOSURE

The invention is the use of an optical fiber to bring visual information to a camera or various types of instruments from a printhead as the printhead is printing product. Coherent optical fibers offer the ability to view an actual picture of a process such as drop generation, while requiring minimal space near the drop generator. Optical fibers also permit the observing end of the fiber to move relative to the receiving end while observations are being taken. Images may be acquired and electronically processed in ways that include identifying fluid flow regime and obtaining dimensional information including dimensions of individual drops. Volumetric flow rate may be calculated from the spatial dimension of drops together with timing information. Colorimetric analysis of the returned light may also yield information about the contents of the drop. It is possible to use any of this information as feedback to control operation of the printhead or dispenser.

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